

Amendments to Claims

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (currently amended) Device for wideband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, in particular via non-contacting rotary joints, said first unit comprising:

- a data source for generating a serial data stream;
- a transmitter for generating electrical signals from said serial data stream from said data source;
- a transmitter conductor array for ~~conducting~~ transmitting said electrical signals ~~generated by said transmitter;~~

and said second unit comprising:

- a receiving antenna for tapping electrical signals in a near field of said transmitter conductor array;
- a receiver for receiving the electrical signals tapped by said receiving antenna;
- a data sink for subsequent processing of the electrical signals received by said receiver;

~~characterized in that~~ wherein a coding means is provided between said data source and said transmitter, which performs a digital coding of said data stream in such a way that data is transmitted as said digital signals with a minimum of errors via said transmitter, said transmitter conductor array, said receiving antenna, and said receiver.

2. (currently amended) Device according to Claim 1,

~~characterized in that~~ wherein a decoder means is provided between said receiver and said data sink.

3. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means is designed for conversion of spectral characteristics of said data stream in such a way that power can be optionally increased or decreased within predetermined spectral ranges.

4. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein a coding function of said coding means can be dynamically adjusted.

5 (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means is so designed that it contributes additional redundancy into said data stream.

6. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means is so designed that it replaces data values at defined positions in said data stream.

7. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means is so designed for increasing or reducing a data rate in said serial data stream.

8. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means comprises a multiplexer for incorporating further data streams into the serial data stream of said data source.

9. (currently amended) Device according to Claim 1,

~~characterized in that~~wherein said coding means comprises means for enciphering the serial data stream of said data source.

10. (currently amended) Device according to Claim 1,

~~characterized in that~~ wherein said coding means comprises means for storing data and for outputting data at different data rates to said transmitter in correspondence with actual transmission characteristics of a data transmission path between said transmitter and said receiver.

11. (currently amended) Device according to Claim ~~1~~ 2,

~~characterized in that~~ wherein said decoder means comprises additional means for signaling incorrectly transmitted data to said coding means via an additionally provided transmission channel, and that said coding means is designed for repeating a transmission of incorrectly received data packages upon request by said decoder means.

12. (currently amended) Device according to Claim ~~1~~ 2,

~~characterized in that~~ wherein said coding means or said decoder means optionally comprises means for clock regeneration.

13. (currently amended) Device according to Claim 1,

~~characterized in that~~ wherein at least one filter is optionally assigned to said transmitter or said receiver for adaptation to transmission characteristics of a data transmission path between said transmitter and said receiver.

14. (currently amended) Device according to Claim 13,

~~characterized in that~~ wherein said filter can be dynamically adjusted.

15. (currently amended) Device according to Claim 1,

~~characterized in that~~ wherein a microcontroller is provided for controlling and diagnosing the device.

16. (currently amended) Device according to Claim 1,

~~characterized in that~~ wherein the device is self-learning and dynamically adapts itself to respective conditions of operation.

17. (currently amended) Method of wideband transmission of digital signals between at least one first unit and at least one second unit mobile along a predetermined path relative to said first unit, in particular via non-contacting rotary joints, said first unit comprising:

- a data source for generating a serial data stream;
- a transmitter for generating electrical signals from said serial data stream from said data source;
- a transmitter conductor array for conducting said electrical signals generated by said transmitter;

and said second unit movable in an arcuate path relative to the first unit, comprising:

- a receiving antenna for tapping electrical signals in a near field of said transmitter conductor array;
- a receiver for receiving the electrical signals tapped by said receiving antenna;
- a data sink for subsequent processing of the electrical signals received by said receiver;

~~characterized in that~~ wherein a coding operation is performed on signals on a transmitter side, and a corresponding decoding operation is performed on signals on a receiver side, so that a transmission of the signals is improved.